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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,836	11/13/2003	Mark R. Gordon	CHA920030026US1	9524
23550 7590 11/27/2007 HOFFMAN WARNICK & D'ALESSANDRO, LLC 75 STATE STREET 14TH FLOOR ALBANY, NY 12207			EXAMINER BELL, CORY C	
			ART UNIT 2164	PAPER NUMBER
			MAIL DATE 11/27/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/712,836

Applicant(s)

GORDON, MARK R.

Examiner

Cory Bell

Art Unit

2164

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-12,15-21 and 23-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-12,15-21 and 23-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
**SAM RIMELL**  
**PRIMARY EXAMINER**

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Claims 1-4, 6-12, 15-21, and 23-26 have been examined.

### *Response to Arguments*

2. Applicants arguments are not persuasive.
  - a. Argument "A. The prior art fails to teach or suggest using a combination of both time saved and summary table size

With regard to claim 1 (and similarly claims 10 and 19), Applicant respectfully submits that the prior art fails to teach or suggest all of the claim limitations.

Claim 1 recites, inter alia, "wherein the performance measure is a combination of both time saved and summary table size." In the Office Action, it is alleged that "using one or the other is a combination" using the broadest reasonable interpretation. Applicant respectfully traverses. Even if, argendo, using "one or the other" was construed to teach using two different combinations of two single elements, it does not, under any interpretation, teach a single combination of two elements, as currently claimed. However, in an effort to expedite prosecution, Applicant has amended the claim to recite "a combination of both time saved and summary table size." Clearly, using "one or the other" could not possibly be interpreted as using a combination of both time saved and summary table size.

The Office Action further refers to column 8, lines 35-56."

This is not persuasive as the benefit measure teaches this limitation as mapped bellow.

Further more applicant provides no explanation as to who the amendment clearly

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precludes one or the other as disclosed, none the less the examiner has amended his rejection in an attempt to further prosecution based on applicants amendments.

Next, applicant contends:

"However, a careful analysis of the algorithm described therein indicates that the algorithm calculates time saved using summary table size (see lines 53-54).

Accordingly, this passage fails to teach the claimed invention - i.e., wherein the performance measure is a combination of both time saved and summary table size."

However, applicant's statement is factually incorrect. If one were to carefully read the reference it states that an estimate of the time saved can be calculated using the summary table size; However, when the statistics are present the time saved is calculated using the collected statistics instead of the summary table size. (Col 8 lines 56-63)

B. The prior art fails to teach or suggest using different subsets of characteristics to generate performance data Claim 1 (and similarly claims 10 and 19), recites, inter alia, "analyzing performance data of execution queries using characteristics relating to each proposed summary table and performance data of execution queries using different subsets" of characteristics found in each proposed summary table." In the Office Action, it is alleged that using all of the characteristics is a subset. However, claim 1 recites using

different subsets. While it may be possible for a subset to include each element of a parent set, it is impossible for different subsets to each include every element of the parent set (i.e., the subsets would not be different if they both contained the full set). The Office Action also refers to column 7, lines 24-29, which describes inexact match summary tables. However, upon a careful reading of the cited passage regarding inexact match summary tables, and more particularly column 11, lines 6-12, it is evident that the term "inexact match summary tables" refers to a situation in which additional dimensions (i.e., characteristics) are added for analysis. Thus, inexact match summary tables are not subsets - but rather are supersets - of other summary tables. Inexact match summary tables therefore do not contain subsets of characteristics. Accordingly, nowhere does any of the prior art teach or suggest using both the summary table characteristics and different subsets of characteristics to create a performance measure.

Applicant's arguments are not persuasive as applicants assertions clearly show that the inexact summary tables has different subsets. Applicants states that the inexact summary contain added dimensions which applicant then equates to a characteristic, each of these dimensions is correlated to a summary table, see table 2. Further more applicant admits that the inexact match summary tables are supersets of other summary tables, as such the other summary tables are clearly subsets of the inexact match summary tables.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 6-12, 15-21, and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,385,604, known hereafter as Bakalash, or the admitted prior art in view of US 6,678,676 known hereafter as Brickell or Bakalash in view of Brickell and US 6317778, known hereafter as Dias.

5. **Claims 1 and 10** are rejected for the following reasons:

1. "A summary table manager for managing summary tables in an OLAP (OnLine Analytical Processing) database system," Bakalash teaches summery tables for use in an OLAP database system in col 6, as does applicants admitted prior art in paragraphs 2-4 of the instant application. However, neither disclose proposing summary tables and calculating performance measures, but these features are taught in Brickel. a query analysis system that displays a set of proposed summary tables based on query statistics gathered for a set of inputted queries; (Brickel Col 3 lines 30-37) and a system for calculating a performance measure for each of the proposed summary tables based on the query statistics, wherein the performance measure is a combination of both time saved and summary table size (Brickel Col 8 lines 33-56, shows the benefit measure, which is a performance measure using the broadest reasonable interpretation, comprising calculations including the number of rows of data in the

summery table (a summery table size), and the time saved and is thus a combination for both the time saved an the summery table size) calculated by analyzing performance data of execution queries using characteristics relating to each proposed summary table(Table 1) and performance data of execution queries using different subsets of characteristics found in each proposed summary table(Col 7 lines 24-30, inexact match summery tables).

Col 3 lines 16-37 teaches calculating an estimate the query execution time witch is a performance measure based on inputted queries, and a query analysis system generating the selected summaries, based on the data from the database i.e. the estimated query processing time calculated by analyzing performance data of execution queries using characteristics relating to each proposed summary table and performance data of execution queries using subsets of characteristics found in each proposed summary table. (Also note Col 6 lines 16-24, Col 7 lines 24-29, and Col 8 lines 35-56). Thus, it would have been obvious to one of ordinary skill in the art at the time of the art to include the features of Brickel in Bakalash as it provides an automatic process that does not require substantial input from the system user or system administrator for maintaining summery tables(Brickel col 3 line 59 – col 4 line 4). Brickel also teaches the display of the summary tables in col 3 lines 34-35, where an administration selects and monitors the summaries. As, the tables must inherently be displayed in order to be selected. Thus, it would have been obvious to one of ordinary skill in the art at the time of the art to include the features of Brickel in Bakalash as it provides an automatic

process that does not require substantial input from the system user or system administrator for maintaining summery tables(Brickel col 3 line 59 – col 4 line 4). Using a performance measure that is a multiplication of size and time saved is taught in Dias Col 5 lines 32-46. Division is a type of multiplication (ie multiplication by an inverse). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to include this feature to normalize the time saved by the size as they both effect the performance of the system and thus they measure would be more accurate.

6. **Claims 2, 11, and 20** are rejected for the following reasons:

Bakalash and The admitted prior art as modified teaches the claims upon which these claims are dependant, however they fail to expressly disclose the set of summery tables being determined based on characteristics utilized in the summary table.

However, this is taught in Brickel col 6 line 16-46. Thus, it would have been obvious to one of ordinary skill in the art at the time of the art to include the features of Brickel in Bakalash as it provides an automatic process that does not require substantial input from the system user or system administrator for maintaining summery tables(Brickel col 3 lines 59 – col 4 line 4).

7. **Claims 3, 12, and 21** are rejected for the following reasons:

Bakalash and The admitted prior art as modified teaches the claims upon which these claims are dependant, however they fail to expressly disclose the performance measure comprising an estimated amount of time saved for using the summary table.



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However, this is taught in Brickel col 3 line 21-24. Thus, it would have been obvious to one of ordinary skill in the art at the time of the art to include the features of Brickel in Bakalash as it provides an automatic process that does not require substantial input from the system user or system administrator for maintaining summery tables(Brickel col 3 line 59 – col 4 line 4).

8. **Claim 19** is rejected for the following reasons:

See Claim 1 rejection, and Brickell Col 2 lines 18-21,

9. **Claims 6, 15, and 23** are rejected for the following reasons:

Bakalash and The admitted prior art as modified teaches the claims upon which these claims are dependant, however they fail to expressly disclose the performance measure being normalized for summary tables based on different fact tables. However, this is taught in Brickel col 8 lines 35-44 shows a performance measure based on the number of rows reduced to over the number of rows for the table/tables being represented, and the number of rows is performance data as it is analogous to how long it takes to parse a table, this is a normalized figure and summary tables are based on different tables.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the art to include the features of Brickel in Bakalash as it provides an automatic process that does not require substantial input from the system user or system administrator for maintaining summery tables(Brickel col 3 line 59 – col 4 line 4).

10. **Claims 7, 16, and 24** are rejected for the following reasons:

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Bakalash and The admitted prior art as modified teaches the claims upon which these claims are dependant, however they fail to expressly disclose a performance analysis system the determines an actual performance analysis system that determines an actual performance value of a given summary table using feedback from the database system. However, this is taught in Brickel col 2 line 62- col 3 line 15. Thus, it would have been obvious to one of ordinary skill in the art at the time of the art to include the features of Brickel in Bakalash as it provides an automatic process that does not require substantial input from the system user or system administrator for maintaining summery tables(Brickel col 3 line 59 – col 4 line 4).

11. **Claims 8, 17, and 25** are rejected for the following reasons:

Bakalash and The admitted prior art as modified teaches the claims upon which these claims are dependant, however they fail to expressly disclose a comparing statistics fro queries using identical characteristics that are preformed before and after creation of the summery table. However, this is taught in Brickel col 2 line 62- col 3 line 15, which compares the same query performed with and without the summary table present.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the art to include the features of Brickel in Bakalash as it provides an automatic process that does not require substantial input from the system user or system administrator for maintaining summery tables(Brickel col 3 line 59 – col 4 line 4).

12. **Claims 9, 18, and 26** are rejected for the following reasons:

Bakalash and The admitted prior art as modified teaches the claims upon which these claims are dependant, however they fail to expressly disclose deleting low performing

summary tables. However, this is taught in Brickel col 4 lines 5-10 or Col 7 lines 5-10. Thus, it would have been obvious to one of ordinary skill in the art at the time of the art to include the features of Brickel in Bakalash as it provides an automatic process that does not require substantial input from the system user or system administrator for maintaining summery tables(Brickel col 3 line 59 – col 4 line 4).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,385,604, known hereafter as Bakalash, or the admitted prior art in view of US 6,678,676 known hereafter as Brickell in further view of US 6317778, known hereafter as Dias.

13. **Claim 4** is rejected for the following reasons:

Bakalash and Brickell teach the claims upon which claim 4 is dependent upon, but fail to expressly disclose the multiplication of the time saved and the summary table size.

Using a performance measure that is a multiplication of size and time saved is taught in Dias Col 5 lines 32-46. Division is a type of multiplication (ie multiplication by an inverse). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to include this feature to normalize the time saved by the size as they both effect the performance of the system and thus they measure would be more accurate.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cory C. Bell whose telephone number is (571) 272 2736. The examiner can normally be reached on m-f 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272 4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**SAM RIMELL**  
**PRIMARY EXAMINER**